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ABSTRACT

Ten personal characteristics and seven administrative skills that differentiated effective from ineffective university leaders were assessed by multiple discriminate analysis. The personal characteristics identified by previous research (Skipper, 1975, 1977) are: responsibility, integrity, self-control, intellectual efficiency, flexibility, personal relations, leadership, motivation to achieve, dealing with problems, and creativity. Administrative skills identified by previous research are: planning ability, knowledge about position, organization and management, leadership, judgment, human relations, and quality of performance. The study sample consisted of 20 male university leaders holding positions of dean, provost, and president. The leaders represented two extreme groups: the 10 "most effective" leaders, and the 10 "most ineffective" leaders as judged by two different groups of fellow administrators. The variables of judgment, knowledge of position, intellectual efficiency, and flexibility were found to discriminate perfectly. An equation using the discriminate function weights of the four variables was developed to predict administrative effectiveness. (SW)

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INDICATORS OF ADMINISTRATIVE EFFECTIVENESS

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Ten personal characteristics and seven administrative skills that differentiated effective from ineffective university leaders were assessed by multiple discriminate analysis. Judgemen, Knowledge of Position, Intellectual Efficiency, and Flexibility were found to discriminate perfectly. An equation using the discriminate function weights of the four variables was developed to predict administrative effectiveness.

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Indicators of Administrative Effectiveness[1]

Introduction

The importance of personal characteristics and administrative skills of the effective leaders was summarized by Stogdill[2] in 1974. He reviewed the literature from 1945 to 1974 and found the following leadership skills appearing most often in studies of leaders behavior:

Social and interpersonal skills
Technical skills
Administrative skills
Intellectual skills
Leadership effectiveness and achievement
Social nearness, friendliness
Group task supportiveness
Task motivation and application

Previous studies by Skipper have demonstrated how effective and ineffective university leaders at the Dean level and above differ on personal characteristics[3] and administrative skills.[4] Table 1 presents the ten personal characteristics and seven administrative skills that significantly differentiated effective from ineffective leaders.

TABLE 1

Because such a large number of variables clearly does not offer a parsimonious description of the difference between effective and ineffective administrators, this study was conducted to reduce the large number of variables to a more manageable number. To achieve this objective it was felt that the multivariate discriminant nature of the complex of seventeen variables had to be detailed statistically. A similar number of variables had to include personal characteristics and administrative skills and be able to replicate the statistical properties of the seventeen variables.

The Sample

The sample was made up of twenty male university leaders holding positions of Dean, Provost, and President. The universities these leaders served were both public and private, urban and rural, and were located throughout the United States. Nine were in the mid-west, six in the east, three in the south, and two in the west. The twenty leaders were two extreme groups; one consisted of ten "most effective" leaders, while the other group was made up of ten "most ineffective" leaders as judged by two different groups of fellow administrators.

Leadership definitions are defined by Hemphill and Coons[5], and Halpin[6], who developed the constructs "Initiating Structure" and "Consideration" to describe behavior. "Initiating Structure" refers to the leader's behavior in delineating the relationship between himself and the members of his group, and in endeavoring to establish well-defined patterns of organization, channels of communication, and ways of getting the job done. "Consideration" refers to behavior indicative of friendship, mutual trust, respect, and warmth in the relationship between the leader and members of the group. "Most Effective" administrators were defined as persons who developed well-defined patterns of organization, who opened channels of communication, who articulated goals, kept morale high, and whose relationship with others were characterized by mutual respect and warmth. They would be high in Initiation Structure and Consideration. "Least Effective" administrators were defined as those persons who were the poorest in defining patterns of organization, who did not open channels of communication, who negatively influenced morale, and who were not trusted by their colleagues or subordinates. They would be low in Initiating Structure and Consideration.

Statistical Procedures

The ten personal characteristics and seven administrative skill variables were pooled to make a seventeen variable battery. Although by definition the two groups of administrators should be very different it was important to determine how the two groups differed on the seventeen variables. More specifically we wanted to reduce the seventeen variable battery yet we wished to maintain maximum group separation with the reduced battery. The seventeen variables were initially assessed using a multiple disciminant function analysis that was described by Tatsuoka.[7] The single discriminant function associated with the variables was significant ($p<.0001$, see Table 2).

Results

Table 2

The computed Wilks lambda was extremely small, .004. The Wilks lambda ranges from a low of zero, meaning the variables provide perfect group separation, to a high of unity, meaning the variables provide no group separation. Thus, the seventeen variables provide almost perfect group separation. On the basis of the ratings on each administrator on each of the seventeen variable it is possible to predict administrative group membership effective or ineffective, with 100 percent accuracy.

The discriminant function separating the two groups is defined as a composite of the seventeen variables. Each variable's unique contribution to the definition of the discriminant function may be inferred from the variables discriminant weight or loading on the function -- the larger the weight the greater the contribution of the variable to the function. If the variables overlap then it should be possible to select a small subset of the variables that provide a close approximation to the degree of separation achieved by the total

complex of seventeen variables. To this end we selected the four variables, two administrative skills, Judgment and Knowledge of Position and two personal characteristics, Intellectual Efficiency and Flexibility, that have the highest degree of relationship with the discriminant function defined by the total seventeen variables.

The four variables were reanalyzed using a discriminant function analysis to see how well they predicted group separation. The single discriminant function defined by the four variables was also significant ($p<.0001$). The associated Wilks lambda was very small, .063, thereby suggesting near perfect group separation. Indeed the four variable solution is as good as the seventeen variable solution (see Table 2).

The summary statistics for the four variable and seventeen variable solution are reported in Table 2. The Chi Square statistic is indicative of whether or not the observed group separation occurs as a result of chance, a non-significant Chi Square, or as a result of some meaningful discriminant continuum, a significant Chi Square. Each administrator may be assigned a score on the discriminant function. The average score of the ineffective administrators on the seventeen variable discriminant function is -.97 while the average score of the effective administrators is .97. The reported significant Chi Square value indicates that the difference between the means of the two groups of administrators is not a chance difference. Similarly on the four variable discriminant function the effective administrators achieved an average discriminant score of .94 while the ineffective administrators achieved an average discriminant score of -.94, a significant difference.

It is assumed that the discriminant function defines an effectiveness continuum with effective administrators at the extreme positive end and ineffective administrators at the extreme negative end, it is possible to

establish an equation for predicting one's location on this continuum. All of the statistics presented in Table 2 suggest that the four variable discriminant function will serve as a complete replacement for the seventeen variable discriminant function with virtually no loss of information. Using the discriminant function weights the following equation results:

Administrative Effectiveness=.20 (Intellectual Efficiency) - .14 (Flexibility + .16 (Knowledge About Position) + .41 (Judgment) - 2.07

When using the equation in the evaluation of an administrator, in place of Intellectual Efficiency, Flexibility, Knowledge About Position, and Judgment we would substitute the rating value from the rating scale used with each variable. If an administrator's administrative effectiveness score is negative, he/she is tending toward the ineffective pole of the continuum. A large negative score, say -.94 or more extreme, would clearly indicate an ineffective administrator. Similarly a large positive score, say .94 or more extreme, would clearly indicate an efficient administrator. It is important to realize that there are many administrators that do not fall into either of these extreme categories. Their administrative efficiency scores will then be some value bounded by ± .94.

Conclusion

Several conclusions may be drawn as a result of this study. In terms of separating ineffective from effective administrators the single most important variable is judgment. Of secondary importance are the two variables intellectual efficiency and knowledge about position. Interestingly, the raters felt that in the sample of rated administrators a relatively high rating on the personal characteristic of flexibility was associated with inefficient administrators.

Simply, without using the equation for administrative efficiency, any administrator receiving high ratings on judgment, intellectual efficiency and knowledge about position is most likely a highly efficient administrator.

NOTES

1. An earlier version of this research was presented as a paper to the Division of Administration of the American Educational Research Association at its annual meeting, April 8, 1979 in San Francisco, California.

2. R. M. Stogdill, Handbook of Leadership, (New York: The Free Press, 1974)

3. C. E. Skipper, "Personal Characteristics of Effective and Ineffective University Leaders", College and University 51 (Spring 1975): 138-142.

4. C. E. Skipper "Administrative Skills of Effective and Ineffective University Leaders" College and University 52, (Spring 1977): 276-280.

5. J. K. Hemphill and A. E. Coons, "Development of the Leader Description Questionnaire" in Leader Behavior and Its Description and Measurement, ed. R. M. Stogdill, and A. E. Coons (Columbus: Ohio State Bureau of Business Research, 1951).

6. A. W. Halpin, Manual for the Leader Behavior Questionnaire, (Columbus: Ohio State Bureau of Business Research, 1957).

7. M. Tatsuoka, Multi Variate Analysis: Techniques for Educational and Psychological Research, (New York: John Wiley and Sons, 1971).

Table 1 Personal Characteristics and Administrative Skills

Variable	Poor Rating	Superior Rating
PERSONAL CHARACTERISTICS		
1. Responsibility	Undependable, Unethical, Moody, Changeable	Dependable, Ethical, Efficient, Thorough, Conscientious, Resourceful
2. Integrity	Deceitful, Opinionated, Resentful	Honest, Sincere, Steady, Trustworthy
3. Self Control	Impulsive, Excitable, Irritable, Self-Centered	Calm, Patient, Thorough, Deliberate
4. Intellectual Efficiency	Confused, Shallow, Defensive, Stereotyped in thinking	Alert, Well informed, Efficient Clear in thinking
5. Flexibility	Rigid, Guarded, Worries	Insightful, Assertive, Confident
6. Personal Relations	Finds fault, Very critical, Feels superior, Sarcastic, Self-centered	Tolerant, Understanding, Tactful, Brings out the best in others
7. Leadership	Retiring, Unassuming, Avoids decisions, Indifferent	Confident, Persistent, Self-reliant and Independent, Takes the initiative
8. Motivation to achieve	Low level of ambition, Unclear goals, Can't communicate to others, Thinks in the past	Strongly motivated to achieve goals. Has clearly defined goals, drive and ambition; Can set up long range goals
9. Avoids Problems	Puts off difficult decisions, Must be reminded about an unpleasant task, Does not face problems readily, Reduces anxiety by avoidance, Passes the buck	Not afraid of responsibility, Makes difficult decisions on schedule, Doesn't pass the buck
10. Creativity	Commonplace, Few ideas, Plodding, Narrow-minded	Original, Imaginative, Questioning, Has many ideas, Inventive
ADMINISTRATIVE SKILLS		
1. Planning Ability	Fails to see ahead	Capable of top level planning
2. Knowledge about Position	Lacks facts about position	Understands all facets of the position
3. Organization and Management	A poor organizer	Brings about maximum effectiveness
4. Leadership	A weak leader	Qualities for high level leadership
5. Judgment	Decisions are sometimes unsound	Makes correct decisions in complex situations
6. Human Relations	Does not get along well with others	Brings out the best in people
7. Quality of Performance	Does not always perform well	Work is always outstanding

Table 2 Summary statistics for discriminant analyses of seventeen variable and four variable data sets (n=20)

	4 variables	17 variables
Wilks Lambda	.063	.004
Chi Square	44.000 DF=4	51.502 DF=17
Accuracy of prediction	100%	100%
Average discriminant score of Effective Administrators	.94	.97
Average discriminant score of Ineffective Administrators	-.94	-.97
Highest Administrative Efficiency Score	1.224	1.064
Lowest Administrative Efficiency Score	-1.258	-1.064